

MIDEX

Concept Study & Downselect

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NASA Headquarters

Phase A Kickoff Meeting
May 16, 2002

Downselection

MIDEX AO, Section 1.2

For phase 2, NASA will conduct a detailed review of the Phase A concept study results to evaluate the implementing details of the selected investigations, namely, any modifications of the scientific objectives, the proposed cost to NASA, design details of the investigation hardware, plans for mission implementation including all technical and management factors, details of the education and public outreach programs, plans for any new/advanced technology, and plans for participation of small disadvantaged businesses and minority institutions. As a result of this second evaluation, NASA intends to select two MIDEX investigations, and possibly one or more Mission(s) of Opportunity, for implementation leading to flight.

Phase A Concept Study

MIDEX AO, Section 7.4.3

The concept studies are intended to provide NASA with more definitive information regarding the cost, risk, and feasibility of the investigations, as well as a detailed plan for the conduct of an appropriate education and outreach program before final selection for implementation. The product of the concept studies will be reports to be delivered by each selected investigation team four months after the Project Initiation Conference. The content and format of the study reports are specified in the *Guidelines and Criteria for the Phase A Concept Study* document in the Explorer Program Library. The NASA review of the completed concept study report will include all mission facets including E/PO. NASA may request presentations and/or site visits to review the final concept study results with the investigators.

Evaluation and Selection Criteria

MIDEX AO, Section 7.4.4

- Scientific merit;
- Technical merit and feasibility of the proposed investigation;
- Feasibility of the proposed approach for mission implementation, including cost risk;
- Quality of plans for education and public outreach;
- Quality of plans for advanced technology infusion and transfer; and
- Quality of plans for small disadvantaged business activities and minority institutions.
- The proposed cost to NASA (selection only).

Relevant Documents

<http://explorer.larc.nasa.gov/explorer/mel.html>

- MINDEX Concept Study Evaluation Criteria
- MINDEX Guidelines for Phase A Concept Study Report Preparation
 - MINDEX Program Cost Elements Definitions
- Example Mission Definition and Requirements Document
- MINDEX Sample Terms and Conditions for the Phase A (Concept Study) Contract

Concept Study Report Evaluation

- HQ/Paul Hertz will Chair the Evaluation Team
- LaRC/Carlos Liceaga will Co-Chair & lead the TMCO evaluation
- Per the Concept Study Guidelines and schedule, final reports must be delivered to address below nlt 4:00 pm EST, October 16, 2002.
 - 40 copies of the Concept Study Report
 - Plus 25 copies of the fact sheet.
 - Include a CD with report in a single PDF file with every copy.
 - No late changes or errata sheets after the deadline
 - Deliver to:
 - MIDEX Concept Study Support Office
 - NASA Peer Review Services
 - 500 E Street, SW
 - Suite 200
 - Washington DC 20024
 - 202-479-9030

Concept Study Report Content

- Phase 1 Selections based primarily on Scientific Merit and Technical Merit.
 - The science objectives MUST not change from the original proposal.
 - Any changes to the science implementation will be evaluated
 - If there is no substantive change in the science implementation, then the scientific merit of the proposed investigation and the technical merit of the science implementation will not be reevaluated.
 - Science section from Proposal MUST be repeated in the CSR.
 - Any and all Changes MUST be highlighted. In addition, a CHANGES page up front that does not count against the page count should summarize significant changes to the Science Investigation section by identifying the original requirements, the new requirements, the rationale for the changes and the location in the CSR.
 - A science panel will be convened, if needed, to review any changes to Scientific Merit

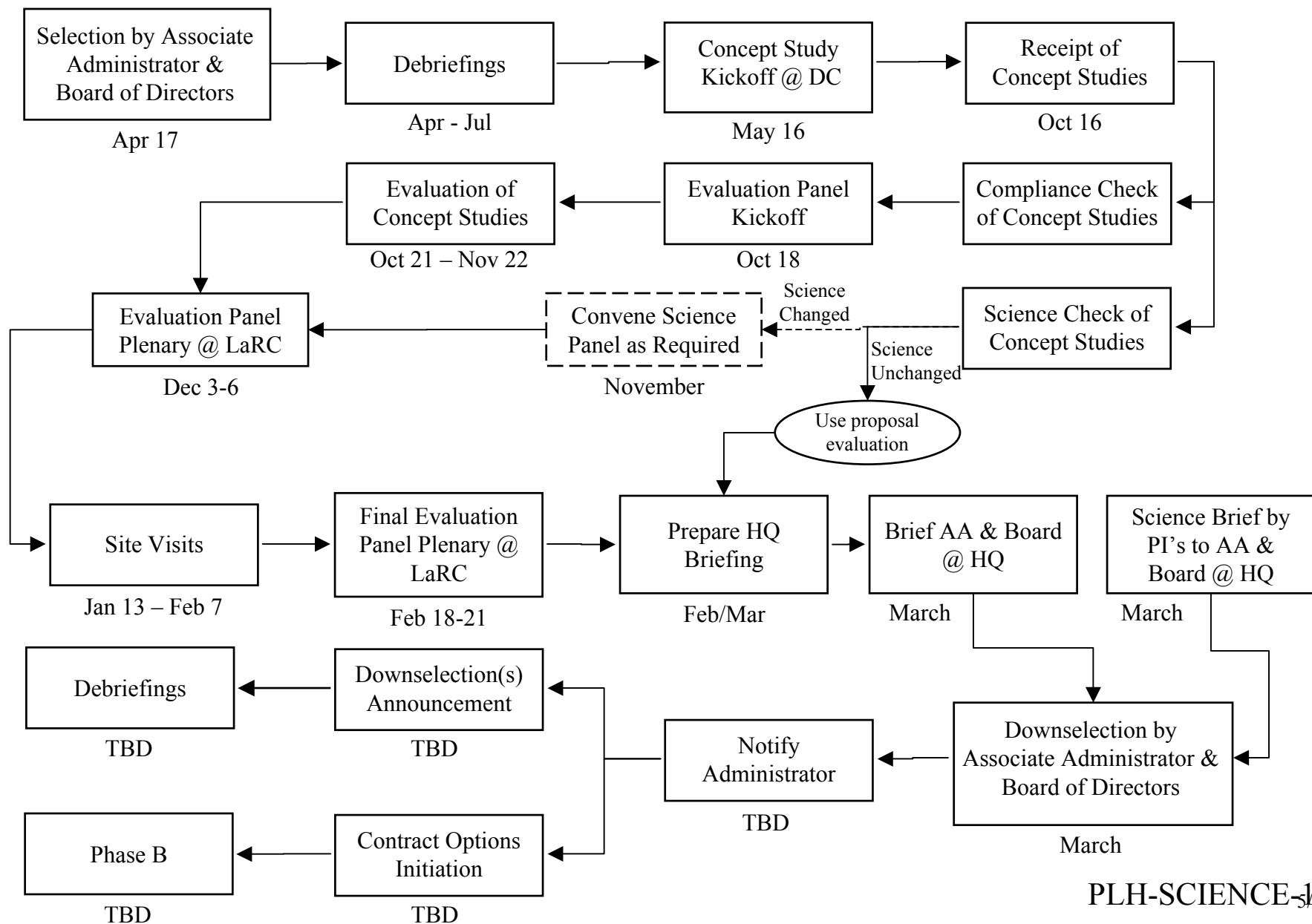
Concept Study Report Content (continued)

- Phase 2 Downselection will emphasize implementation: Technical feasibility of science implementation and the Technical, Management, Cost, and Other factors (TMCO) which are the last three criteria.
 - It is expected that changes will be required in the description of the science implementation, especially as relates to the criterion for feasibility. 5 additional pages are allowed in the Science Investigation section to address this.

Evaluation Criteria (AO §7.4.4)

- The Concept Study Report will be evaluated on 5 criteria
 - Scientific merit of investigation
 - Same criterion as in AO.
 - Science objectives MUST not change from the original proposal.
 - Scientific Merit will not be evaluated if no change.
 - Grade from original proposal will be used.
 - Technical merit and feasibility of the science implementation
 - Same criterion as in AO
 - Technical Merit not evaluated if no substantive changes in science implementation
 - Evaluate Technical Feasibility of the science implementation.
 - Feasibility of the proposed approach for mission implementation, including cost risk
 - Described in Concept Study Guidelines and discussed in TMCO section of Briefing
 - Quality of plans for education and public outreach
 - Described in Concept Study Guidelines and E/PO section of Briefing
 - Quality of plans for new technology and small disadvantaged business activities
 - Described in Concept Study Guidelines and TMCO section of Briefing

MIDEX 5/6 Downselect Schedule/Evaluation Flow



Downselection Evaluation Process

- The MDEX Downselect Evaluation Panel is composed of the following evaluators and is chaired by the Explorer Program Scientist.
 - Selected science peer experts will review and evaluate the Concept Study Reports with changes to Scientific Merit and Technical Merit (as applicable).
 - Selected technical peer experts will review and evaluate the Concept Study reports for all mission aspects (Technical feasibility, Cost, Flight system, Integration and test, Mission design, Management, Operations, Launch Services, etc.).
 - Selected expert and peer reviewers will review and evaluate the Education and Public Outreach, Technology Transfer and Infusion, and Small Disadvantaged Business and Minority Institution plans in each Concept Study Report.

Downselection Evaluation Process (continued)

- After a review and evaluation period of about 5 weeks, the MIDEX Downselect Evaluation Panel will convene for a Preliminary Evaluation Plenary to consider preliminary findings and issues/questions to be reviewed during the site visits.
- Specific Concept Study Report questions will be forwarded to each Proposer at least 3 working days prior to the MIDEX Downselect Evaluation Panel site visit.
- The MIDEX Downselect Evaluation Panel will then conduct site visits to each Proposer's designated facilities to hear 1 day (up to 8 hours) briefings by each Proposer. Each Proposer may include an additional 1 hour tour of facilities/hardware, but all Proposers will have no more than one day.
- Ground rules for site visits have been established during previous Explorer downselect activities.
 - See previous ground rules on the web.

Downselection Evaluation Process (continued)

- The MIDEK Downselect Evaluation Panel will then meet the subsequent day after each site visit to discuss the findings from the site visit briefing.
- After all site visits are complete, the MIDEK Downselect Evaluation Panel will then convene to finalize findings and to develop individual ratings for each proposal for each of the evaluation criteria. All ratings will be supported with strengths and weaknesses sufficient to justify the rating. Ratings will be based on a linear 9 point scale where 9 is excellent or low risk (highest rating) and 1 is poor or high risk (lowest rating).
- Separate ratings will be issued for Technical, Management, and Cost risks.

Downselection Evaluation Process (continued)

- A Final Evaluation Plenary session of the MIDEX Downselect Evaluation Panel will review individual criterion ratings and reach consensus criteria ratings for each of the Concept Study Reports.
- At the Final Evaluation Plenary session,
 - the Explorer Program Scientist will be the chair.
 - the individual ratings for each evaluation criterion will be presented for each Concept Study Report.
 - each evaluation criterion will be assumed to be of equal weight.
 - the evaluation criterion ratings for each Concept Study Report will be reviewed and discussed leading to a consensus agreement for the evaluation.
 - separate consensus criterion ratings for each Concept Study Report and supporting documentation to justify these ratings will be produced.

Downselection Evaluation Process (continued)

- Results of the Downselection Evaluation will be developed into a briefing and presented to the Associate Administrator for Space Science and the Space Science Selection Board.
- Each PI will be invited to brief the Associate Administrator for Space Science and the Space Science Selection Board on the Scientific Merit of the investigation.
 - Ground rules for science presentations to headquarters have been established in previous explorer downselects. See the web.
- Downselection will be made by the Associate Administrator for Space Science and the Space Science Selection Board.
 - Associate Administrator for Space Science: Ed Weiler
 - Executive Director for Science: Guenter Riegler
 - Director, Astronomy and Physics: Anne Kinney
 - Director, Sun-Earth Connection: Dick Fisher
 - Director, Solar System Exploration: Colleen Hartman

Competition Conditions

- “Blackout” after the Kickoff Meeting
 - Communications after this meeting will be controlled.
 - Technical and expert advice should be obtained directly from identified points of contact.
 - All programmatic questions, including questions of policy, questions of interpretation, and questions of clarification, should come to HQ/Paul Hertz.
 - Answers if warranted will be provided via email to all PI’s and posted on the MDEX Downselect Information page:
<http://spacescience.nasa.gov/codesr/mindex/>
 - Charts, Q & As, and minutes from this Kickoff meeting will be posted
- Site Visits will be coordinated with Paul Hertz or Carlos Liceaga
- Relevant documentation, including the Guidelines and Criteria for the Concept Study Report

<http://explorer.larc.nasa.gov/explorer/mel.html>